



**University of
Zurich**^{UZH}

**Zurich Open Repository and
Archive**

University of Zurich
University Library
Strickhofstrasse 39
CH-8057 Zurich
www.zora.uzh.ch

Year: 2016

Intermedia agenda-setting in a multimedia news environment

Vonbun, Ramona ; Kleinen-von Königslöw, Katharina ; Schönbach, Klaus

Abstract: This article analyzes intermedia agenda-setting processes during a national election campaign of 38 newspapers, online news sites, TV news programs, as well as a wire service, through semi-automatic content analysis and time series analysis. The theoretical assumption was that intermedia agenda-setting is determined by the production structures of certain media types, the opinion-leader role of specific media outlets, and issue-specific characteristics. The findings suggest that, despite previous evidence to the contrary, intermedia agenda-setting also occurs during election campaigns, with a short time lag of 1 day. Additionally, a medium's opinion-leader role depends strongly on issue-specific characteristics, such as obtrusiveness and proximity, mediating the intermedia agenda-setting process. And the traditional role of print media as intermedia agenda-setters is found to be challenged by online news sites.

DOI: <https://doi.org/10.1177/1464884915595475>

Posted at the Zurich Open Repository and Archive, University of Zurich

ZORA URL: <https://doi.org/10.5167/uzh-116276>

Journal Article

Accepted Version

Originally published at:

Vonbun, Ramona; Kleinen-von Königslöw, Katharina; Schönbach, Klaus (2016). Intermedia agenda-setting in a multimedia news environment. *Journalism*, 17(8):1054-1073.

DOI: <https://doi.org/10.1177/1464884915595475>

Intermedia agenda-setting in a multimedia news environment

Abstract

This paper analyzes intermedia agenda-setting processes during a national election campaign of 38 newspapers, online news sites, TV news programs, as well as a wire service, through semi-automatic content analysis and time series analysis. The theoretical assumption was that intermedia agenda-setting is determined by the production structures of certain media types, the opinion-leader role of specific media outlets, and issue-specific characteristics. The findings suggest that, despite previous evidence to the contrary, intermedia agenda-setting also occurs during election campaigns, with a short time lag of one day. Additionally, a medium's opinion-leader role depends strongly on issue-specific characteristics, such as obtrusiveness and proximity, mediating the intermedia agenda-setting process. And the traditional role of print media as intermedia agenda-setters is found to be challenged by online news sites.

Keywords

Intermedia agenda-setting, newspapers, online news sites, obtrusiveness, time series analysis

Introduction

Since the seminal work of McCombs and Shaw (1972), our knowledge of how media influence their audiences in terms of awareness and prioritizing of societal issues has increased considerably. Much less is known, about how media select issues that they present to their audiences in the first place, which may in itself entail agenda-setting effects (Brandenburg, 2002; Thesen, 2013; Vliegenthart & Walgrave, 2008)—the so called “media agenda-setting” process (); Rogers, Dearing, & Bregman, 1993).

The present study aims to shed more light on the role of competing news organizations in media agenda-setting during election campaigns—resulting in what is called “intermedia agenda-setting” (Danielian & Reese, 1989). Past research has shown that intermedia agenda-setting is largely absent during election campaigns because media are more likely to follow political actors (Vliegenthart & Walgrave, 2008). But does this hold true for all democratic settings and Austria in particular? Our aim is to test this finding based on an in-depth design mapping the complete news environment of a country during the 2013 national election campaign in Austria. The theoretical part of the article considers why intermedia agenda-setting should occur and why some media outlets have more potential than others to be followed during elections and in general. First, colleague orientation as an antecedent of intermedia agenda-setting is encouraged by the structures of journalism itself, e.g. the production cycle of news. Second, some media outlets are followed because of their role in the media system. Third, the nature of the issue discussed—where it originates and is localized—may single out some media outlets as agenda-setters. And finally, the obtrusiveness of the issue will also affect intermedia agenda-setting.

The empirical study seeks to test these hypotheses by analyzing the attention directed by various media outlets to four specific issues over a period of eight weeks during the Austrian national election campaign in 2013.

Intermedia agenda-setting and journalistic co-orientation

Originating in the 1980s as the fourth phase of agenda-setting research, intermedia agenda-setting research was triggered by fears that journalists' co-orientation might result in a highly redundant, consonant, homogenous news agenda (Boczkowski, 2010; McCombs, 2004). By focusing on intermedia relations, scholars hoped to answer the question, "When the media sets the public agenda, who sets the media's agenda?" (Rogers et al., 1993). Intermedia agenda-setting is a dynamic and routinized process of news diffusion, where coverage of one media outlet is influenced by the agenda of other outlets (Vliegenthart & Walgrave, 2008).

But why does journalistic co-orientation and consequently intermedia agenda-setting occur in the first place? Co-orientation is part of the routinized process of news selection. This close observation owes to the fact that journalists, in contrast to other professions, previously had no valid external criteria for the quality of their work. Co-orientation helped to reduce the uncertainty of new information, compensating for lack of contact with the audience (Gans, 1979; Mathes & Pfetsch, 1991).

Today, journalists can judge their work by observing users' behavior through web analytics (Karlsson & Clerwall, 2013; A. M. Lee, Lewis, & Powers, 2014; Tandoc, 2014). Although recent findings suggest that audience clicks have a lagged effect on news placements (A. M. Lee et al., 2014), journalists' professional news judgment is still important to initially select and interpret news in the first place (Karlsson & Clerwall, 2013). It follows that co-orientation is still important in journalism, and today its importance may even be enhanced by the competition between different media outlets, by market pressures, as well as by underfinanced and understaffed newsrooms for which other news organizations act as supplementary information providers along with PR-material, wire services, and others (Brandenburg, 2002; Kiouisis, Kim, McDevitt, & Ostrowski, 2009). Despite previous evidence to the contrary (Vliegenthart & Walgrave, 2008), we assume that the increased competition between media outlets during election campaigns will foster intermedia agenda-setting (Plasser

& Lengauer, 2010b): During campaigns, journalists are even more aware of the strategic communication goals of political actors. To avoid being exploited by politics and political PR at these times of heightened pressure, they watch each other more closely to develop their own angles and may follow each other.

Based on previous intermedia agenda-setting studies, we can distinguish four factors that determine the intermedia agenda-setting role of media outlets during election campaigns and in general. First, intermedia agenda-setting depends on the production cycles of the individual media outlets (Shoemaker & Reese, 1996; Vliegenthart & Walgrave, 2008). Second, it can be assumed that each media system has opinion-leader media that lead the coverage on certain issues and so set the agenda for others (Noelle-Neumann & Mathes, 1987). Third, some issues are inherently more obtrusive than others (Soroka, 2002; Zucker, 1978), observable by more people and thus encourage independent reporting which makes intermedia agenda-setting processes less likely. Finally, some media outlets are closer than others to a particular event (Galtung & Ruge, 1965; Schulz, 1976)—in other words, the origin of an issue or event and the resulting geographical proximity of certain media outlets to this issue can have an impact on journalistic co-orientation.

1) Characteristics of media types: production structure

Intermedia agenda-setting depends on news production and resources (Shoemaker & Reese, 1996). As different media types have different publishing cycles, some media types will be faster than others in publishing news and therefore precede the news coverage on particular issues (Vliegenthart & Walgrave, 2008). For online media, there is no fixed deadline and no fixed publishing schedule; they can publish news whenever they want. Many newspapers use their online outlets to publish articles online before they appear in the printed newspaper. In general, then, it can be assumed that online news coverage will precede traditional media (newspapers and broadcasts). Second, most newspapers are published in the morning while

main broadcast television news air in the evening. Television news should therefore be faster than print news not only in reaching the audience but in responding to news popping up during a day. As both online and television news are “faster”, they are also more likely to be monitored by other journalists and are more likely to be agenda-setters.

Yet, most empirical research so far has failed to confirm these assumptions. Instead, newspapers have been shown to influence television news (Trumbo, 1995; Vliegenthart & Walgrave, 2008) while alternative media influence traditional media (Mathes & Pfetsch, 1991), and elite newspapers and wire copies influence local newspapers (Gold & Simmons, 1965; Shaw & Sparrow, 1999; Whitney & Becker, 1982).

Regarding online media, influences from newspapers on internet bulletin boards (B. Lee, Lancendorfer, & Lee, 2005), and from leading online newspapers on secondary newspapers and online wire services (Lim, 2006) have been found. Other authors pointed out bidirectional relationships between the media agenda and blogs (Heim, 2013; Meraz, 2011; Sweetser, Golan, & Wanta, 2008; Wallsten, 2007).

So far, theoretical considerations and empirical findings provide us with no clear picture of intermedia agenda-setting between media types. This is mainly due to the fact that most empirical investigations use rather small media samples, focusing on the relationship between specific media types or specific media outlets, instead of attempting to investigate the whole news media landscape of a country.

Most previous studies have focused on routine periods, presuming that during election campaigns intermedia agenda-setting is rare. Intermedia agenda-setting might still be visible for shorter time lags, even during election campaigns. In fact, online media and the digitalization of newsrooms have accelerated news production (B. Lee et al., 2005), shortening the time frame for intermedia agenda-setting in general. In this light, intermedia agenda-setting would be better investigated on a daily basis. Longer intervals may in contrast identify media convergence, instead of intermedia agenda-setting (Vliegenthart & Walgrave, 2008). Looking

at daily intervals, we can assume that “faster” media types, such as television and online news, influence the agenda of others during election periods as well. This should hold true in particular for news coverage of policy issues. After all, despite popular fears to the contrary, policy issues still play a role in election coverage (Dimitrova & Strömbäck, 2012; Kleinen-von Königslöw, Meyer, Vonbun, Wagner, & Winkler, 2014).

RQ1: Which media types set the agenda for which other media types during an election campaign?

H1.1: Online media precede the news coverage of television and print media.

H1.2: Television media precede the news coverage of print media.

2) Characteristics of media outlets: Opinion-leader media

In their pivotal election study, Lazarsfeld, Berelson, and Gaudet (1948) introduced the term “opinion-leader”. This term can also be applied to the media system, where certain media outlets act as source of information for other media outlets, for politicians and the public (Noelle-Neumann & Mathes, 1987). The theoretical assumption is that each media system has its opinion-leaders, and that journalists follow those opinion-leader outlets, which may even set off a chain reaction in the media system (Hyun & Moon, 2008; Noelle-Neumann & Mathes, 1987). Theoretically, media opinion-leadership is not restricted to one media type and/or genre. Like human opinion-leaders “there are opinion leaders in every walk of life” (Lazarsfeld et al., 1948: xxiii). On that basis, every media outlet can act as a source of information for any other leading us to prefer the term “opinion-leader” media outlets (instead of “elite”, “key”, or “prestige”), which accommodates news outlets of different media types and genres.

Empirical findings suggest that elite newspapers like e.g. *The New York Times* in the US are the most important intermedia agenda-setters (Danielian & Reese, 1989; Mathes & Pfetsch,

1991; Shaw & Sparrow, 1999). However, surveys of journalists indicate that in some countries they also follow the coverage of tabloid media, see e.g. in Austria (Kaltenbrunner, 2010).

Most previous research has investigated the role of opinion-leader media for routine periods. With regard to coverage of the electoral race itself, intermedia agenda-setting effects of individual outlets have been considered unlikely as most of the coverage is initiated by the political actors themselves (Vliegenthart & Walgrave, 2008). Still, individual outlets are under as much, if not greater, pressure to provide a “scoop” in election times, making intermedia agenda-setting effects of individual outlets more likely for policy issues (Plasser & Lengauer, 2010b; Seethaler & Melischek, 2010). The second research question aims to shed light on the role of individual media outlets in the intermedia agenda-setting process:

RQ2: Which media outlets set the agenda for which other outlets during an election campaign?

H2.1: Opinion-leaders set the agenda for other outlets.

3) Issue-specific characteristics: obtrusiveness and proximity

Even though issue characteristics have been found to be an important mediating factor in audience agenda-setting (see for an overview McCombs, 2004), they have so far been mostly neglected in research on *intermedia* agenda-setting. Few studies have focused on contingent conditions of intermedia agenda-setting relating to differences between issues. Danielian and Reese (1989) mention the nationality of a story and its source as important factors. Breen (1997) assumes that intermedia agenda-setting is reinforced by the deviance of news. Others differentiate between the origin of an issue, issues evolving mostly under institutional control vs. issues triggered by external events (Mathes & Pfetsch, 1991; Vliegenthart & Walgrave, 2008). We consider another differentiation of issues: the obtrusiveness and proximity of an issue.

Analogies to audience agenda-setting studies suggest that issue-specific characteristics may have an impact on intermedia agenda-setting processes, in that the nature of an issue may determine how strongly media depend on each other as sources (Smith, 1987). The more “obtrusive” an issue—i.e., the more likely it is to be experienced firsthand by virtually everybody—the less someone depends on media to get to know about it (Zucker, 1978). This not only applies to the audience of a specific medium, but also to its journalists who are also part of the public: To report upon relevant issues they can easily observe themselves, journalists will not consult the coverage of other media outlets. Therefore we suggest to deal with journalists the same way as with the public concerning the obtrusiveness of issues (Walgrave, Soroka, & Nuytemans, 2008).

RQ3: To what extent does the intermedia agenda-setting process during an election campaign depend on issue-specific characteristics?

H3.1: For obtrusive issues, intermedia agenda-setting processes are less likely.

News value theory describes the characteristics a news story needs to be covered in the media (Kepplinger & Ehmig, 2006). Journalists then attach news values to news factors—i.e., whether they are relevant or not. Thus, news factors can have differing news values for different media outlets, depending on media type, genre, and the individual outlet. One important news factor with a high news value is proximity (Galtung & Ruge, 1965; Östgaard, 1965; Schulz, 1976). Some authors even think that proximity is the central criteria for news selection (e.g., Allern, 2002). Empirical research on news values shows that the news factor proximity has an especially high news value for regional and tabloid media (Kepplinger & Ehmig, 2006).

As a results, we assume that the news factor proximity influences intermedia agenda-setting by increasing the news value of close issues. Media from a particular region are more likely to cover issues taking place in their own region and affecting their readers. Through this,

they may become influential with respect to such an issue, both nationally and in other regions. In other words, the role of specific outlets within the media system may change according to the specific issue, as they may become opinion-leaders because they have a head start in reporting on the issue by virtue of proximity to the events, better local contacts and knowledge:

H3.2: Media geographically closer to the region in which an issue originates are more likely to be agenda-setters for other media.

The Austrian case

For the first time, this study investigates intermedia agenda-setting in Austria as a whole. Austria is a small, representative democracy with a strong federal structure. Its nine states promote a strongly regionalized feeling of belonging, which is mirrored in the media landscape and media use patterns of the country's inhabitants (Aichholzer, Kritzinger, Müller, Schönbach, & Vonbun, 2014). Nearly every federal state has its own media market (newspaper, TV news, radio stations, and news websites). The political system is characterized by a tradition of coalition governments. Hence, political actors are more likely to focus on issues during election campaigns than on negative campaigning because the competitor during the race can be a possible coalition partner after the election. As a result, issues still play a comparatively important role during election campaigns in Austria (Kleinen-von Königslöw et al., 2014).

A prime candidate for opinion-leadership is the public broadcaster *ORF*, which has retained its dominant position in terms of market reach and political influence despite the recent introduction of commercial television, mirroring the situation in many other European countries with a strong tradition of public broadcasting. Additionally, surveys of political journalists attribute much influence to the main quality papers (*Der Standard* and *Die Presse*), as well as the tabloid *Kronen Zeitung* (Kaltenbrunner, 2010). This influence is probably not restricted to the print versions of the newspapers, it can be expected that the online versions of these

“opinion-leaders” will also precede coverage by other media (see H2.1). In particular, *derstandard.at* and *orf.at* are assumed to have intermedia agenda-setting power because those are the Austrian news websites with the greatest national audience reach (Aichholzer et al., 2014).

The study will also control for the agenda-setting power of the wire service as these have been shown to be important agenda-setters, especially for smaller media outlets with restricted resources that rely on wire services as news providers (Breed, 1955; Shaw & Sparrow, 1999). In Austria, most outlets (except for the *Kronen Zeitung*) are members of the *APA* cooperative (i.e., shareholders of the wire service *APA*) and subscribers of its content service.

Methodology

The data is based on an analysis of media coverage of all political actors standing in the Austrian national election campaign of 2013. To isolate intermedia agenda-setting processes for different types of outlets the media sample comprised 17 daily newspapers, 14 online news sites and seven television news programs, as well as the copy of the Austrian wire service, *APA*.¹ The data set for the semi-automatic content analysis contained 34,528 news articles (online and print) and transcripts of TV-news, as well as 3,732 items of wire copy (total N = 38,260).

Because we were interested in the role of issue-specific characteristics in the intermedia agenda-setting process, a single-issue design was deemed more appropriate than a rank-order design (see RQ 3). Four issues were selected that generated the most coverage (apart from the electoral race itself), fulfilled the requirements for time series analysis and provided enough variation with regard to the hypotheses. For each issue, elaborate search strings were created. To assess their validity, precision and recall tests were conducted with values ranging from .73 to 1.0, indicating sufficient validity.²

Using these search strings, all articles and news items mentioning an Austrian party or politician were scanned into the Amsterdam Content Analysis Toolkit (AmCAT) (Van

Atteveldt, 2008), to create a time series for each media outlet (plus *APA*) and issue, for the 60 days before elections. The media agenda was measured here as counts of articles per day. As prominent articles published on the front page are usually accompanied by supplementing coverage like interviews, commentaries or letters to the editor, it was assumed that the amount of news stories per day is a valid measurement of the prominence of an issue on the media agenda. This assumption was confirmed by a correlation analysis between the daily article counts and the counts weighted by length (a frequent used indicator of prominence) which revealed correlation coefficients above .8 for all time series.

The two issues of national relevance were *corruption* (N= 2,188) and *school reform* (N= 942); the two regionally relevant issues were *pedestrian zone* (N= 638) and *district reform* (N= 324). As the *pedestrian zone* is located in Vienna, this issue might allow non-elite newspapers situated in Vienna to set the agenda by virtue of their local contacts and knowledge. *District reform* concerned Styria, a state with fewer media outlets.³ The issues also varied in their obtrusiveness: while *school reform* can be considered obtrusive for all Austrian parents and thus also for many journalists, only a few people (and journalists) were directly involved in the *corruption* case or in *district reform*. The level of obtrusiveness was less clear in the *pedestrian zone* issue; although the proposed pedestrian zone itself affected only Vienna directly, it touched on more general issues relating to urban congestion which can be observed by audience and journalists alike in most of Austria (cf. Appendix Table 1).

For analysis of intermedia agenda-setting, the time series of each issue for each medium were compared. Which news providers led coverage of the issue, and which others followed? For this purpose, only media outlets with ten news stories or more on a given issue during the period of investigation were considered for analysis at the level of individual media outlets. The problem with such a method, of course, is that it can only deal with who came first and who came later. It cannot determine whether the follow-up coverage was really influenced by its predecessor; that would require an analysis of the exact wording of articles. As in most other

intermedia agenda-setting studies, the causality component of this analysis depends on plausibility (Meraz, 2011; Vliegenthart & Walgrave, 2008; Wallsten, 2007).

As already mentioned, it was assumed that intermedia agenda-setting processes occur very rapidly because, first, online media accelerate journalistic co-orientation, and second, the unique situation of an election campaign also fosters and accelerates intermedia agenda-setting. In these circumstances, vector autoregression models (VAR) were computed with a time lag of one day.

To answer RQ1, a VAR was developed for each issue for the aggregated media types. To answer RQ2, a VAR was tested for each issue, for each individual outlet that reported on the particular issue more than ten times. Before conducting the Granger causality Wald test, which analyzes which medium might be influenced by which media outlets, the fit of the lag length of one day was checked, the regression model was tested for stationarity, and a test of residual autocorrelation and normal distribution of the VAR was performed.

Results

Analysis at the media type level

To answer RQ1 (Which media types set the agenda for which other media types?), we conducted a multilevel time series analysis for all media types in the sample (newspapers, television news, and online news sites), also controlling for the Austrian wire service *APA*. The analyzed time lag was one day, which was the best model fit for all four issues (see Appendix, Table 2). The findings of the Granger causality Wald test on the issue *corruption* confirm both hypotheses, both online media and TV preceded print media coverage (see Figure 1). Online media also preceded the wire service coverage of *corruption*, but no effect was found on TV from online media. For *school reform* and *district reform*, the only effect was from online media on print media, but there was no independent effect from TV or wire copy on newspapers. For

the regionally relevant *pedestrian zone* issue, online media was again found to precede print media, and TV preceded the wire service *APA*.

[Figure 1]

These findings confirm H1.1 and lead us to conclude that only online news media are capable of setting the newspapers' agenda for all four issues. In spite of its different production cycle, TV-news was not a general agenda-setter for newspapers. But in contrast to the newspapers, TV-news appear to remain independent of the issue-agenda of online news sites.⁴

Analysis at the individual media level

RQ2 asked which individual media outlets set the agenda for other outlets. In short, a lot of media outlets have the potential to be intermedia agenda-setters. Overall, 447 processes were found in which a specific medium clearly preceded a specific other one. The greatest number of intermedia agenda-setting processes were identified in relation to *corruption* (251), followed by *school reform* (123), and the regional issues *pedestrian zone* (61) and *district reform* (12). These findings illustrate that the number of intermedia agenda-setting processes is related to the number of articles published on an issue: intermedia agenda-setting is more likely for popular issues.

With regard to H2.1, it emerges that none of the assumed opinion-leader outlets dominate intermedia agenda-setting on all four issues (for a quick overview on level of the media genre see Figure 3 in the appendix). On the *corruption* issue, the website of a quality paper (*diepresse.com*, 12 times) is among the strongest agenda-setters. However, newspapers from regions with corruption scandals before and during the election campaign—*Oberösterreichische Nachrichten* (13 times) and *Salzburger Nachrichten* (eleven times)—were also most often the first to cover an issue. By contrast, on the *school reform* issue, it was the

online news sites of the public broadcaster (*orf.at*) and a quality paper (*derstandard.at*) that emerged as the strongest intermedia agenda-setters (seven times each). The regional online news site *kleinezeitung.at* (nine times), the regional newspaper *Neues Volksblatt* (eight times) and the online news sites *oe24.at*, *news.at* and *noen.at* (seven times each) also often preceded the coverage by other outlets.

With respect to regional issues, the quality paper *Die Presse* most often set the agenda on the *pedestrian zone* issue for other media outlets, with a time lag of one day (six times).⁵ However, the online news site *vienna.at* (six times) and *kurier.at* (five times) were of equal importance here. Taking into account the findings of the Granger causality Wald test with a time lag of two days, some prestige media outlets (*Der Standard*, *Wiener Zeitung*, and *derstandard.at*) as well as the wire service gain importance.

[Figure 2]

On the other regional issue, *district reform*, the quality online news site *derstandard.at* again succeeded in preceding the coverage of other outlets by one day (though only three times),⁶ as did the Styrian regional newspaper *Kleine Zeitung* (also three times) and the wire service *APA* (twice). As Figure 2 illustrates, the *Kleine Zeitung* followed its online outlet *kleinezeitung.at* and preceded the news coverage of *derstandard.at* and the wire service *APA*.

Confirming the results of previous studies, quality outlets (online and print) are clearly able, to set the agenda for other outlets on individual issues but not in general. Depending on the issue, different media outlets precede other outlets on media coverage. “Key” media preceded the coverage of other outlets not more often than “non-key” media. Rather, the findings suggest that different issues have different “opinion-leaders”, although the strongest influence was found to be exerted by quality online news sites.

The tabloid with the largest audience reach, *Kronen Zeitung*, and its news site appear to have a much smaller role than is often assumed in Austria: Only on the regional issue *district reform* did the *Kronen Zeitung* (which has a regional supplement for the districts affected by the reform) precede other outlets. Similarly, the intermedia agenda-setting potential of the public broadcaster appears to be limited to its news site, *orf.at*, and to one issue (*corruption*). H2.1 thus receives only limited support regarding the role of the public broadcaster *ORF* and the *Kronen Zeitung*.

To put the findings at the individual media level in a broader perspective, the individual outlets were aggregated on the genre level, and the mean influence (MI) between individual outlets of the different genres was calculated.⁷ Looking at Figure 4, it is clear that quality media and online news sites on average exert the most influence on other genres for all issues—with particular influence on quality and tabloid newspapers but also on regional online news sites. Furthermore, quality newspapers act as opinion-leaders for quality online news sites on the *corruption* issue, as do regional newspapers for other regional newspapers on the *corruption* issue and tabloid newspapers for other tabloid newspapers on the *school reform* issue.

[Figure 4]

As these results already indicate, issue characteristics appear to be strong mediators in the intermedia agenda-setting process. On a national level, the more obtrusive issue of *school reform* generates fewer intermedia agenda-setting processes than the less obtrusive issue of *corruption*, confirming H3.1 that intermedia agenda-setting is less likely to occur for obtrusive issues. For the regional issues, however, obtrusiveness did not have a dampening effect, with far more intermedia agenda-setting processes for the *pedestrian zone* issue than for the less obtrusive *district reform*. Evidence for H3.1 is therefore inconclusive.

With regard to geographical proximity, the data provide support for H3.2. In particular, the Viennese media preceded coverage in relation to the *pedestrian zone* issue, independent of their overall status. This influence on national media can again be attributed to the newsworthiness of the issue which was pushed daily by new, and controversial events (such as protest rallies). Similarly, media from the concerned region (*Kleine Zeitung* and *kleinezeitung.at*) set the agenda on *district reform* for *derstandard.at* and *APA*, preceding the coverage of further outlets. Even on the national issue of *corruption*, those regional newspapers based in regions with corruption scandals were able to influence the agenda of other outlets. H3.2 can be accepted, although further testing, with more issues and additional issue-specific characteristics, would be advisable.

Conclusion and discussion

The goal of this study was to investigate intermedia agenda-setting in a multimedia news environment and to identify factors which help explain the opinion-leader role of specific media types or particular media outlets, as well as contingent conditions. As it is based on the media coverage during a national election campaign, i.e. a news phase for which previous research has found only limited evidence of intermedia agenda-setting processes, the study should be considered a conservative case: The processes and causal relationships uncovered here are likely to be stronger for routine news periods (Vliegenthart & Walgrave, 2008).

To sum up, there is evidence that online media dominate intermedia agenda-setting in Austria. It seems that the online news sites of quality media have the potential to act more generally as opinion-leaders. This finding contradicts the results of earlier studies in which print media had emerged as the main agenda-setter (B. Lee et al., 2005; Schafer, 2011; Wendelin & Neubarth, 2013), and supports previous findings that quality online news sites influence other media (Lim, 2006). Given the continuous rise in importance of online media, it seems plausible that the relationship between print and online has now been reversed and online news have

become more influential in terms of intermedia agenda-setting. By drawing on data from the complete news environment of one country, our study was thus able to closely document the powerful impact of digitalization on news production. Though it only looked at election coverage, it seems highly likely that online media have replaced print newspapers as intermedia agenda-setters in general. Given the growing importance of social media as sources of information for individual journalists (Engesser & Humprecht, 2014), intermedia agenda-setting should strive to develop a valid tool for measuring issues in social media and in news content to allow a comprehensive analysis (Engesser & Humprecht, 2014), so that future studies can also include this next wave of news digitalization.

Second, the power of the so-called “key media” is not a general one, as suggested by previous studies (Mathes & Pfetsch, 1991). At different aggregation levels, there was no clear pattern to indicate that any of the examined “key” media functioned as opinion-leader for other outlets across all issues under analysis. This finding illustrates the importance of including a variety of media types, genres and individual outlets in the analysis. Replicating earlier findings (Shaw & Sparrow, 1999), we could show that it is not always the often assumed quality media acting as opinion-leaders who initiate news coverage, but depending on the issue, other media may take the lead.

This leads to a third conclusion, that obtrusiveness of an issue and proximity are important mediators in intermedia agenda-setting (Shaw & Sparrow, 1999; Vliegenthart & Walgrave, 2008). For now, this offers only a preliminary sense of the Austrian media landscape in terms of intermedia agenda-setting. Although some influential “opinion-leaders” were found in respect of some issues, further investigation is needed, especially with regard to the role of issue-specific characteristics.

These findings should also serve to calm some of the fears which originally initiated this research field: As our evidence suggests, media outlets switch roles continuously, sometimes leading, sometimes following the coverage, depending on the issue. In other words, there is not

one single media outlet with the power to dominate the agenda of all others, not during an election campaign, but probably also not during routine periods. Instead, journalists appear to pay attention to those of their colleagues with the best local knowledge and contacts, which should result in a higher quality of media reporting.

There are a number of limitations to our study. First, as most other intermedia agenda-setting studies, we could only pinpoint certain relationships, but causality has still to be established. It is possible that media agendas could be influenced by other sources. Research investigating the interaction between the media agenda and the policy agenda in the agenda-building process indicates that both are important actors in setting the other's agenda (see e.g., Bartels, 1996; Brandenburg, 2002). Further research should control for the whole agenda-building process, including press releases in addition to the media as indicators of political agendas. Second, future research should control intermedia agenda-setting for more than one time lag to investigate whether certain media outlets act as a bridge for other outlets.

Third, as time series analysis requires a special data structure, it is not possible to investigate intermedia agenda-setting for short-term issues that pop up suddenly and disappear after a few days on the media agenda. Another interesting point for future research would be to discuss the findings with journalists from different genres, to compare the findings to their media use-patterns, and their journalistic norms and values.

Fourth, the present analysis was unable to establish many intermedia agenda-setting effects for television news. This may be due to a methodological problem, as TV has less space for extended coverage than newspapers and online news sites, so that most single issues do not generate sufficient coverage for inclusion in a time series analysis. The intermedia agenda-setting role of television might become more visible if one looked at a longer time period or larger issue categories.

Finally, it would be important to test for intermedia agenda-setting effects in additional election studies as well as outside of election times as events such as these can dominate a

country's whole media landscape (Eilders, 2000). There could be more and clearer intermedia agenda-setting relationships with larger time lags in routine times, when the electoral race does not dominate media coverage, journalists face less time pressure and thus have more time for investigative reporting.

¹ For the complete list of analyzed media, see Appendix Table 1.

² The precision and recall test to validate the search strings was conducted with 150 random articles. Test values were: for school reform .75 (precision), 1.0 (recall); for corruption .73 (precision), .89 (recall); for district reform .93 (precision), 1.0 (recall); for pedestrian zone 1.0 (precision), .85 (recall).

³ For Austria as a whole, we chose the issue of *school reform* regarding the introduction of a comprehensive school for 10 to 14 year-olds in Austria. The implementation of such a reform concerned the whole nation and polarized the political camps.

The second nationwide issue was *corruption*. In recent years all Austrian political parties have been involved (to varying degrees) in corruption scandals, with the exception of the Green Party.

District reform was an important issue for a particular Austrian region—the state of Styria. During the last legislature period before the election, institution reforms had been conducted in Styria, unifying some communes and districts. As a protest against this reform, some mayors from the state governing parties appealed to voters not to vote for one of the two coalition parties. This, then, is a topic emerging from a regional setting with a potential impact on the national election.

The fourth issue, *pedestrian zone*, was also crucial to a particular region: the capital city Vienna. It included the discussion and test phase surrounding the transformation of “Mariahilfer Strasse”, one of the largest shopping streets in Austria, from a regular street to a pedestrian area where only bikes and public buses are allowed. This issue has a regional focus because it is only important for Vienna, and even there, just two out of 23 city districts were affected. Still the frontrunners of the parties in parliament used this regional (even local) issue for their national campaigns.

⁴ To assess whether some of these processes are due to the fact that some of these media outlets share a newsroom or are part of the same brand, we checked also for intermedia agenda-setting processes between media outlets from the same media brand. Over all issues under analysis we found only 14 of these: Most of the time newspapers followed their online news site but we found also some bidirectional effects. Thus, only a marginal proportion of the intermedia agenda-setting effects (3 percent) can be explained through this.

⁵ The optimal time lag for the *pedestrian zone* issue was two days, but we also conducted a VAR for one day. The regression for the one-day time lag had a better model fit than the two-day version, indicating that more significant regression models occur at a time lag of one day.

⁶ Although the best model fit for *district reform* was a time lag of four days, we also calculated the model with a time lag of only one day.

⁷ This index helps to compare the intermedia agenda-setting power of media genres, and to identify media genres with an opinion-leader function. The first step was to sum up how many times an individual news outlet of a media genre set the agenda for media outlets of another media genre (influence factor IF). In a second step, we divided this influence factor by the sum of media outlets in the preceding media genre (possible agenda-setters—AS) and the number of media outlets in the following media genre (possible agenda followers—AF). The mathematical formula is: $MI = IF / (AS + AF)$. The index can range between 0 and 1, where 0 indicates no influence of an individual media outlet from this media genre on a media outlet from the respective other media genre, and 1 the highest possible influence of one media genre on another.

Appendix*Table 1* Number of articles in media outlets per issue

Media	corruption	school reform	pedestrian zone	district reform
Newspapers				
Der Standard	75	22	23	14
Die Presse	86	56	56	(3)
Salzburger Nachrichten	60	27	(9)	(8)
WirtschaftsBlatt	(7)	(2)	(5)	(0)
Kronen Zeitung	67	26	56	33
Österreich	127	47	38	11
Heute	27	(7)	11	(0)
Kurier	85	41	66	(7)
Kleine Zeitung	75	37	(3)	58
Oberösterreichische Nachrichten	53	65	(3)	(7)
Tiroler Tageszeitung	52	40	(6)	(1)
Vorarlberger Nachrichten	30	49	(1)	(1)
Wiener Zeitung	45	15	29	(7)
Kärntner Tageszeitung	26	(9)	(0)	(1)
Neue Vorarlberger Tageszeitung	38	22	(2)	(2)
Neues Volksblatt	25	13	(0)	(1)
Salzburger Volkszeitung	12	(3)	(0)	(0)
Online news sites				
orf.at	98	30	35	18
derstandard.at	127	53	34	10
diepresse.com	137	58	64	(6)

Intermedia agenda-setting in a multimedia news environment

salzburg.com	112	49	20	14
krone.at	34	(5)	(8)	(3)
oe24.at	43	14	16	(1)
heute.at	40	(7)	20	(3)
kurier.at	127	33	15	(7)
kleinezeitung.at	123	51	15	67
tt.com	22	(4)	(0)	(1)
vol.at	25	13	(1)	(4)
vienna.at	21	12	28	(1)
news.at	44	14	14	(3)
noen.at	35	14	(1)	(2)
Television news				
ZiB 1	21	(5)	(0)	(3)
ZiB 2	12	(3)	(1)	(1)
ZiB 20	6	(0)	(1)	(2)
ZiB 24	7	(4)	(0)	(1)
ATV	6	(2)	(2)	(0)
Sat1	15	(0)	(4)	(2)
Pro7 Austria	8	(0)	(1)	(0)
Wire service (APA)	235	90	50	21
Total	2,188	942	638	324

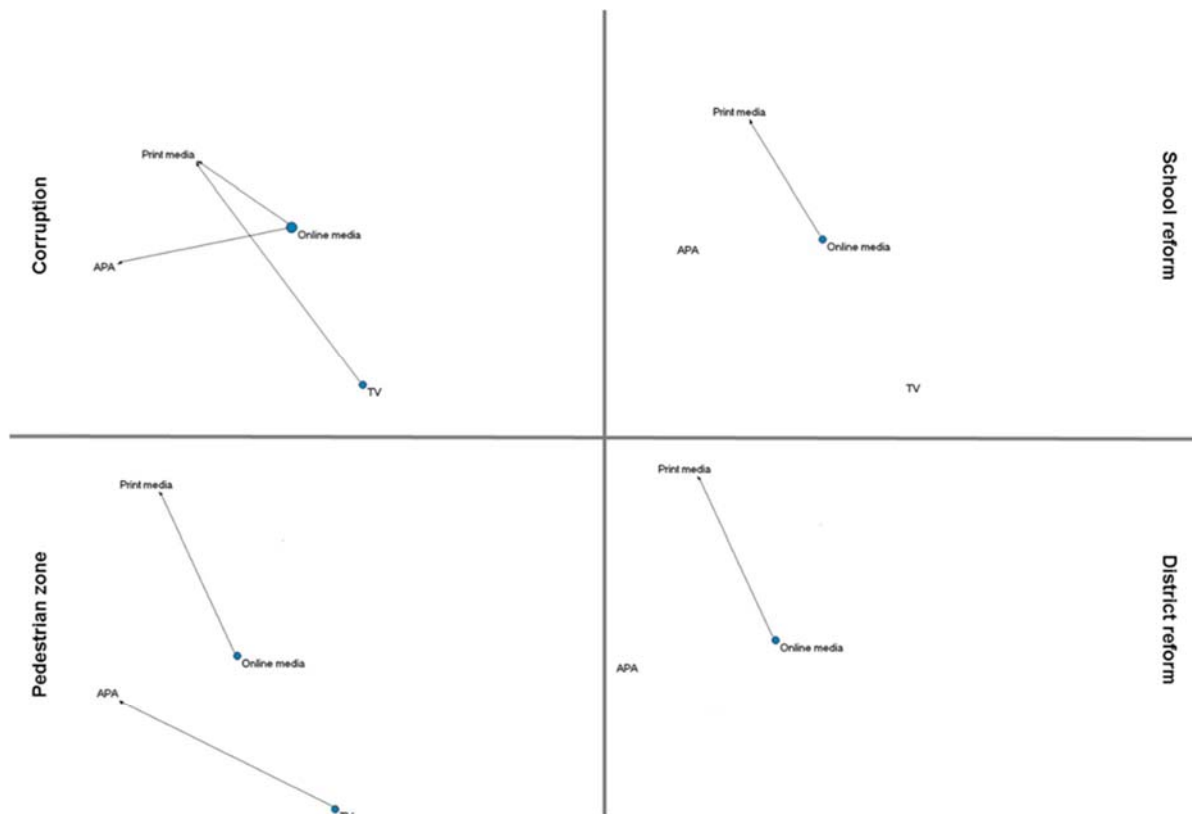
Note. All figures in brackets were not included in the individual media analysis.

Table 2 Test statistics vector autoregression

	Level of						residual	
	analysis	LL	LR	df	p-value	AIC	stationary	auto-correlation
	type	11514.5	27234*	1156	0.000	-368.732	yes	yes
Corruption	single media							
	outlets	-614.376	73.456	16	0.000	22.6563	yes	no
School	type	-538.592	1686	625	0.000	424.497	yes	yes
reform	single media							
	outlets	-442.016	37.35	16	0.02	16.5006	yes	no
Pedestrian	type	401.338	1762.1*	324	0.000	9.4522	yes	yes
zone	single media							
	outlets	375.591	52.828	16	0.000	16.0975	yes	no
District	type	-240.466	186.34	64	0.000	18.0167	yes	no
reform	single media							
	outlets	-344.074	48.365	16	0.000	13.0026	yes	no

Note. Test statistics are for a time lag of one day.

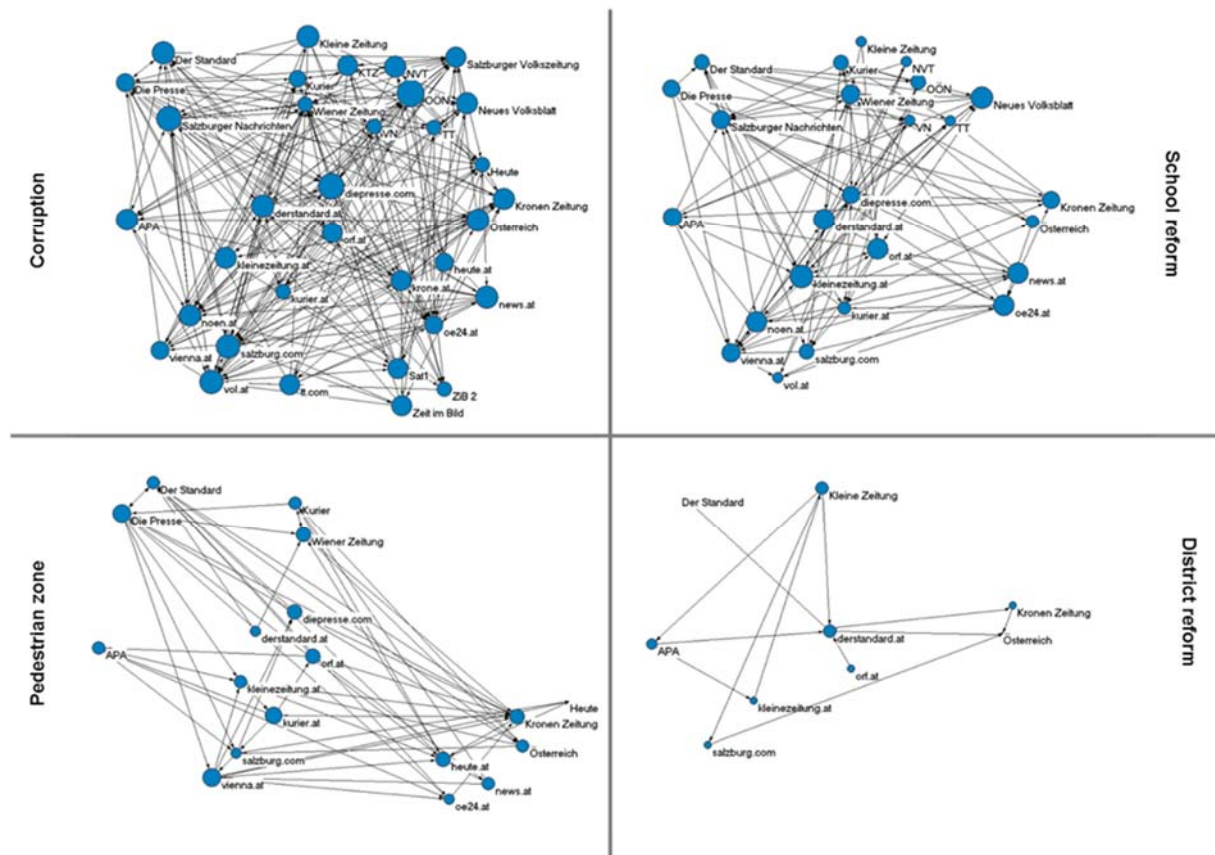
Figure 1 Networks on the media type level



Note. The graphs are networks of the significant relationships from the Granger causality Wald test on a time lag of one day. The direction of the arrows shows which media types preceded the coverage of which other types, and the size of the nodes indicates the importance of media type in terms of the number of intermedia agenda-setting processes.

Example: Concerning the issue of corruption *online media* preceded the news coverage of *print media*, and the wire service *APA*. *TV* news coverage preceded the news coverage of *print media*.

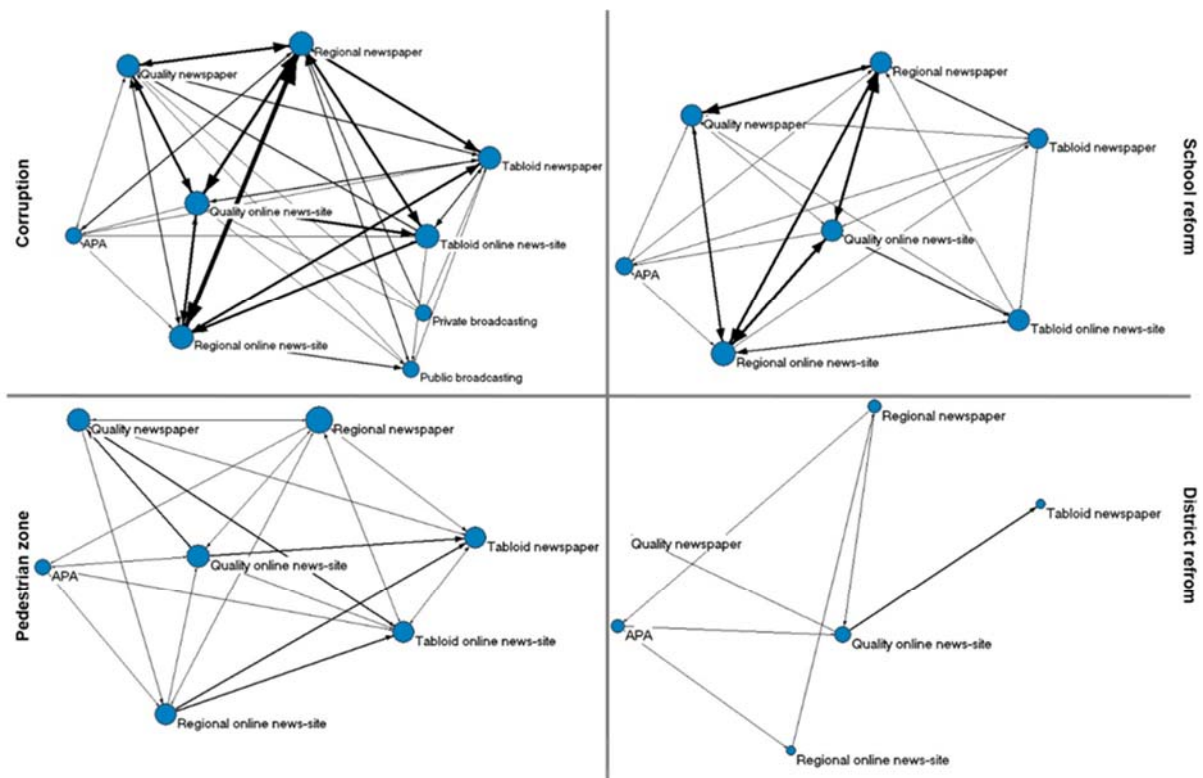
Figure 2 Networks on the individual media level



Note. The graphs are networks of the significant relationships from the Granger causality Wald test on a time lag of one day. The direction of the arrows shows which media outlets preceded the coverage of which other outlets, and the size of the nodes indicates the importance of media outlets in terms of the number of intermedia agenda-setting processes.

Example: Concerning the network of the *Kleine Zeitung* on the issue district reform *Kleine Zeitung* preceded the news coverage of *derstandard.at*, *salzbrug.com*, and the wire servic *APA*. *Kleine Zeitung* was preceded by *kleinezeitung.at*.

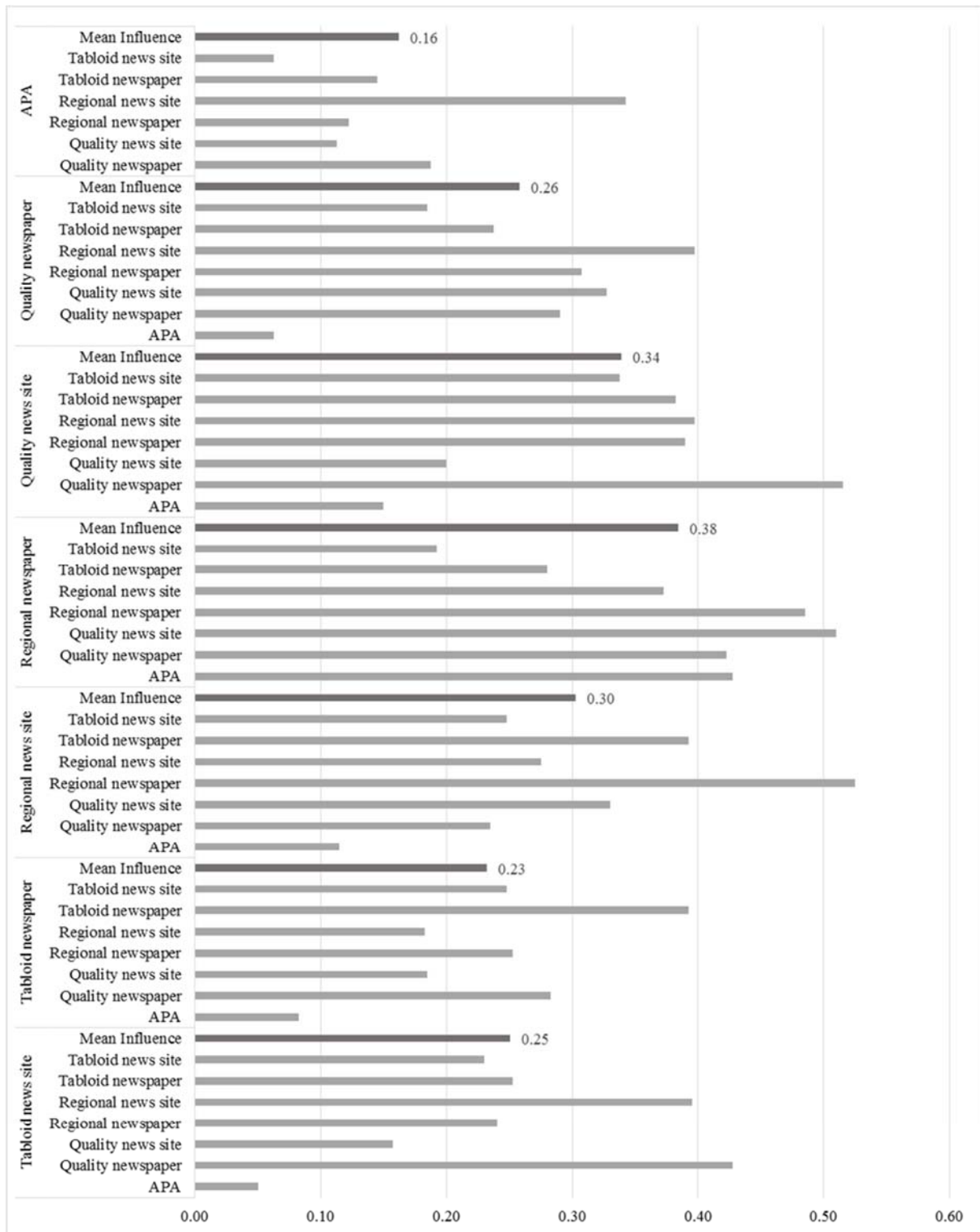
Figure 3 Networks on the media genre level



Note. The graphs are networks of the significant relationships from the Granger causality Wald test on a time lag of one day aggregated on the genre level. The direction of the arrows shows which media genres preceded the coverage of which other genres, and the size of the nodes indicates the importance of a media genre in terms of the number of intermedia agenda-setting processes, the lines indicate the counts of the individual outlets in the genre.

Example: Concerning the network of quality online news sites on the issue district reform quality online news sites preceded the news coverage of tabloid newspapers, and quality newspapers. Online news sites were preceded by regional newspapers and the wire service APA. The dark arrow between quality online news sites and tabloid newspapers indicates that there were more than one relationship between different outlets of the two genres.

Figure 4 Mean influence between media genres for all issues



Note. Displayed are the mean influences of the various media genres for all four issues. The mean influence a media genre has on all other genres is highlighted in dark grey. *Example.* Over all four issues, the *wire service* has a mean influence of 0.16 on the other media genres. The *wire service* sets the agenda most often for *regional news sites*, and the least often for *tabloid news sites*.

References

- Aichholzer, J., Kritzing, S., Müller, W. C., Schönbach, K., & Vonbun, R. (2014). Die Ausgangslage [Starting point]. In S. Kritzing, W. C. Müller & K. Schönbach (Eds.), *Die Nationalratswahl 2013. Wie Parteien, Medien und Wählerschaft zusammenwirken [The national election 2013. How parties, media and electorate interact]* (pp. 9-38). Vienna, Austria: Böhlau.
- Allern, S. (2002). Journalistic and commercial news values: News organizations as patrons of an institution and market actors. *Nordcom Review*, 23(1-2), 137-152.
- Bartels, L. M. (1996). *Politicians and the press: Who leads, who follows?* Paper presented at the American Political Science Association, San Francisco.
- Boczkowski, P. J. (2010). *News at work: Imitation in an age of information abundance*. Chicago: The University of Chicago Press.
- Brandenburg, H. (2002). Who follows whom?: The impact of parties on media agenda formation in the 1997 British general election campaign. *The Harvard International Journal of Press/Politics*, 7(3), 34-54.
- Breen, M. J. (1997). A cook, a cardinal, his priests, and the press: Deviance as a trigger for intermedia agenda setting. *Journalism & Mass Communication Quarterly*, 74(2), 348-356.
- Danielian, L. H., & Reese, S. D. (1989). A closer look at intermedia influences on agenda-setting: The cocaine issue of 1986. In P. J. Shoemaker (Ed.), *Communication campaigns about drugs: Government, media and the public* (pp. 47-66). Hillsdale: Lawrence Erlbaum Associates.
- Dimitrova, D. V., & Strömbäck, J. (2012). Election news in Sweden and the United States: A comparative study of sources and media frames. *Journalism*, 13(5), 604-619.
- Eilders, C. (2000). Media as political actors? Issue focusing and selective emphasis in the German quality press. *German Politics*, 9(3), 181-206.
- Engesser, S., & Humprecht, E. (2014). Frequency or skillfulness. *Journalism Studies*, 1-17.
- Galtung, J., & Ruge, M. (1965). The structure of foreign news. . *Journal of Peace Research*, 2(1), 64-91.
- Gans, H. J. (1979). *Deciding what's news: A study of CBS evening news, NBC nightly news, Newsweek, and Time*. New York: Pantheon Books.
- Gold, D., & Simmons, J. L. (1965). News selection patterns among Iowa dailies *Public Opinion Quarterly*, 29(3), 425-430.
- Hallin, D. C., & Mancini, P. (2004). *Comparing media systems: Three models of media and politics*. Cambridge, UK: Cambridge University Press.
- Heim, K. (2013). Framing the 2008 Iowa democratic caucuses: Political blogs and second-level intermedia agenda setting. *Journalism & Mass Communication Quarterly*, 90(3), 500-519.
- Hyun, K., & Moon, S. J. (2008). *Differential effects model of agenda setting in local contexts*. Paper presented at the International Communication Association, Montreal, Canada.
- Kaltenbrunner, A. (2010). Was bin ich? Leitmotive und Leitmedien im Politikjournalismus [What am I? Leitmotive and opinion leader media in political journalism]. In A. Kaltenbrunner, M. Karmasin & D. Kraus (Eds.), *Der Journalisten-Report III: Politikjournalismus in Österreich [Journalism report III: Political journalism in Austria]* (pp. 109-134). Vienna, Austria: Facultas.
- Karlsson, M., & Clerwall, C. (2013). Negotiating professional news judgment and "clicks": Comparing tabloids, broadsheet and public service traditions in Sweden. *Nordicom Review*, 34(2), 65-76.
- Kepplinger, H. M., & Ehmig, S. C. (2006). Predicting news decisions. An empirical test of the two-component theory of news selection. *Communications*, 31, 25-43.

- Kiousis, S., Kim, S.-Y., McDevitt, M., & Ostrowski, A. (2009). Competing for attention: Information subsidy influence in agenda building during election campaigns. *Journalism & Mass Communication Quarterly*, 86(3), 545-562.
- Kleinen-von Königsłow, K., Meyer, T. M., Vonbun, R., Wagner, M., & Winkler, A. K. (2014). Die Sachthemen im Wahlkampf [The policy issues in the election campaign]. In S. Kritzinger, W. C. Müller & K. Schönbach (Eds.), *Die Nationalratswahl 2013. Wie Parteien, Medien und Wählerschaft zusammenwirken [The national election 2013. How parties, media and electorate interact]* (pp. 39-65). Vienna, Austria: Böhlau.
- Lazarsfeld, P. F., Berelson, B., & Gaudet, H. (1948). *The people's choice: How the voter makes up his mind in a presidential campaign*. New York: Columbia University Press.
- Lee, A. M., Lewis, S. C., & Powers, M. (2014). Audience clicks and news placement: A study of time-lagged influence in online journalism. *Communication Research*, 41(4), 505-530. doi: 10.1177/0093650212467031
- Lee, B., Lancendorfer, K. M., & Lee, K. J. (2005). Agenda-setting and the internet: The intermedia influence of internet bulletin boards on newspaper coverage of the 2000 general election in South Korea. *Asian Journal of Communication*, 15(1), 57-71.
- Lim, J. (2006). A cross-lagged analysis of agenda setting among online news media. *Journalism & Mass Communication Quarterly*, 83(2), 298-312.
- Mathes, R., & Pfetsch, B. (1991). The role of the alternative press in the agenda-building process: Spill-over effects and media opinion leadership. *European Journal of Communication*, 6(1), 33-62.
- McCombs, M. (2004). *Setting the agenda: The mass media and public opinion*. Cambridge: polity press.
- McCombs, M., & Shaw, D. (1972). The agenda-setting function of mass media. *Public Opinion Quarterly*, 36(2), 176-187.
- Meraz, S. (2011). Using time series analysis to measure intermedia agenda-setting influence in traditional media and political blog networks. *Journalism & Mass Communication Quarterly*, 88(1), 176-194.
- Noelle-Neumann, E., & Mathes, R. (1987). The 'event as event' and the 'event as news': The significance of 'consonance' for media effects research. *European Journal of Communication*, 2(4), 391-414.
- Östgaard, E. (1965). Factors influencing the flow of news. *Journal of Peace Research*, 2(1), 39-63.
- Plasser, F., & Lengauer, G. (2010b). Politik vor Redaktionsschluss: Kommunikationsorientierungen von Macht- und Medieneliten in Österreich [Politics before deadline: Communication orientation of power and media elites in Austria]. In F. Plasser (Ed.), *Politik in der Medienarena: Praxis politischer Kommunikation in Österreich [Politics in the media arena]* (pp. 53-100). Wien: Facultas.
- Reese, S. D. (2001). Understanding the Global Journalist: a hierarchy-of-influences approach. *Journalism Studies*, 2(2), 173-187.
- Rogers, E. M., Dearing, J. W., & Bregman, D. (1993). The anatomy of agenda-setting research. *Journal of Communication*, 43(2), 68-84.
- Schafer, M. L. (2011). *Democratization, fragmentation, or the status quo: Examining news aggregators' issue agendas and variety of news sources*. Paper presented at the International Communication Association, Boston, USA. Article retrieved from
- Schulz, W. (1976). *Die Konstruktion von Realität in den Nachrichtenmedien: Analyse der aktuellen Berichterstattung [The construction of reality in news media]*. Freiburg, Germany: Karl Alber.
- Seethaler, J., & Melischek, G. (2010). Journalismus und Politik in den österreichischen Nationalratswahlkämpfen 1999-2008 [Journalism and politics in the Austrian national election campaigns 1999-2008]. In A. Kaltenbrunner, M. Karmasin & D. Kraus (Eds.),

- Der Journalisten-Report III: Politikjournalismus in Österreich [Journalism report III: Political journalism in Austria]* (Vol. 3, pp. 139-160). Vienna, Austria: Facultas.
- Shaw, D. R., & Sparrow, B. H. (1999). From the inner ring out: News congruence, cue-taking, and campaign coverage. *Political Research Quarterly*, 52(2), 323-351.
- Shoemaker, P. J., & Reese, S. D. (1996). *Mediating the message: Theories of influences on mass media content*. White Plains, NY: Longman.
- Smith, K. A. (1987). Newspaper coverage and public concern about community issues. *Journalism Monographs*, 101, 1-32.
- Soroka, S. N. (2002). Issue attributes and agenda-setting by media, the public, and policymakers in Canada. *International Journal of Public Opinion Research*, 14(3), 264-285.
- Sweetser, K. D., Golan, G. J., & Wanta, W. (2008). Intermedia agenda setting in television, advertising, and blogs during the 2004 election. *Mass Communication & Society*, 11(2), 197-216.
- Tandoc, E. C. (2014). Journalism is twerking? How web analytics is changing the process of gatekeeping. *New Media & Society*.
- Thesen, G. (2013). When good news is scarce and bad news is good: Government responsibilities and opposition possibilities in political agenda-setting. *European Journal of Political Research*, 52(3), 364-389.
- Trumbo, C. (1995). Longitudinal modeling of public issues: An application of the agenda-setting process to the issue of global warming. *Journalism & Mass Communication Monographs*, 152, 1-57.
- Van Atteveldt, W. (2008). *Semantic network analysis: Techniques for extracting, representing, and querying media content*. Charlston: BookSurge.
- Vliegienthart, R., & Walgrave, S. (2008). The contingency of intermedia agenda setting: A longitudinal study in Belgium. *Journalism & Mass Communication Quarterly*, 85(4), 860-877.
- Walgrave, S., Soroka, S., & Nuytemans, M. (2008). The mass media's political agenda-setting power: A longitudinal analysis of media, parliament, and government in Belgium (1993 to 2000). *Comparative Political Studies*, 41(6), 814-836.
- Wallsten, K. (2007). Agenda setting and the blogosphere: An analysis of the relationship between mainstream media and political blogs. *Review of Policy Research*, 24(6), 567-587.
- Wendelin, M., & Neubarth, J. (2013). *Extended agenda-setting in the era of the internet: How journalists and users contribute to the news flow*. Paper presented at the International Communication Association, London, UK.
- Whitney, D. C., & Becker, L. B. (1982). 'Keeping the gates' for gatekeepers: The effects of wire news. *Journalism & Mass Communication Quarterly*, 59(1), 60-65.
- Zucker, H. G. (1978). The variable nature of news media influence. *Communication Yearbook*, 2, 225-240.